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09/574,203	05/19/2000	Christian Goerigk	225/48876	7270

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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/574,203

Applicant(s)

GOERIGK ET AL.

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected: \_\_\_\_.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-6, drawn to an exhaust gas cleaning system and an internal combustion engine having the exhaust gas cleaning system, classified in class 422, subclass 177.
  - II. Claims 7-9, drawn to a method for cleaning exhaust gas, classified in class 423, subclass 210+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as related as process and apparatus for its practice.

The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as the process of manufacturing a chemical compound.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Adria Wimmer on 6/12/03 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6.

Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 7-9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Priority***

6. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Drawings***

7. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

***Specification***

8. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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10. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line .

Claim 4 is an improper dependent claim as it fails to further limit the subject matter of the previous claims. Apparently, claim 4 merely recites process limitation and therefore is not structurally further limiting.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hofmann et al (5,884,475).

Hofmann et al discloses an apparatus comprising:

a nitrogen oxide reduction catalytic converter C for reducing nitrogen oxides contained in an exhaust gas 5 from the diesel engine D;

a reducing agent metering device for metered addition of the reducing agent or a reducing agent precursor 4 to the exhaust gas 5;

wherein said reducing agent metering device comprises:

a feed unit 22;

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a vaporizer arranged upstream of the nitrogen reduction catalytic converter C (col. 9, lines 3-5); and

a heat source selected from the group consisting of a heatable deflector surface (e.g. the hot walls) onto which the reducing agent 4 is directed under pressure (col. 9, lines 5-9).

Instant claims 1-3, 6 structurally read on the apparatus of Hofmann et al.

13. Claims 1-3, 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 555,746.

With respect to claims 1-3, 6, EP 555,746 discloses an apparatus comprising:  
a nitrogen oxide reduction catalytic converter 5 for reducing nitrogen oxides contained in an exhaust gas 12 from the diesel engine;

a reducing agent metering device for metered addition of the reducing agent or a reducing agent precursor 6 to the exhaust gas 12;

wherein said reducing agent metering device comprises:

a feed unit 9;

a vaporizer 34 arranged upstream of the nitrogen reduction catalytic converter 5; and

a heat source selected from the group consisting of a heatable deflector surface (e.g. the hot walls 22 of channels 20) onto which the reducing agent 6 is directed under pressure.

With respect to claim 5, Muller et al further discloses two catalytic converter stages 5, 35 connected in series wherein each stage has a different reducing agent storage

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capacity and wherein at least one of the stages forms the nitrogen oxide reduction catalytic converter 35.

Instant claims 1-3, 5-6 structurally read on the apparatus of EP 555,746.

14. Claims 1-3, 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/01387 (corresponding to Muller et al, US 6,444,177).

With respect to claims 1-3, 6, Muller et al discloses an apparatus comprising:

a nitrogen oxide reduction catalytic converter 36, 38 for reducing nitrogen oxides contained in an exhaust gas a from the diesel engine;

a reducing agent metering device for metered addition of the reducing agent or a reducing agent precursor r to the exhaust gas a;

wherein said reducing agent metering device comprises:

a feed unit 22;

a vaporizer arranged upstream of the nitrogen reduction catalytic converter 34, 36; and

a heat source selected from the group consisting of a heatable deflector surface (e.g. the hot walls 20, 61) onto which the reducing agent r is directed under pressure.

With respect to claim 5, Muller et al further discloses two catalytic converter stages 36, 38, 39 connected in series wherein each stage has a different reducing agent storage capacity and wherein at least one of the stages forms the nitrogen oxide reduction catalytic converter 36, 38.

Instant claims 1-3, 5-6 structurally read on the apparatus of Muller et al.

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15. Claims 1, 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/36676.

With respect to claims 1, 6, WO 97/36676 discloses an apparatus comprising:  
a nitrogen oxide reduction catalytic converter 20 for reducing nitrogen oxides contained in an exhaust gas from the diesel engine 10;  
a reducing agent metering device for metered addition of the reducing agent or a reducing agent precursor 50 to the exhaust gas;

wherein said reducing agent metering device comprises:

a feed unit 52;

a vaporizer 60 arranged upstream of the nitrogen reduction catalytic converter 20; and

a heat source selected from the group consisting of a heatable deflector surface 64, 62 onto which the reducing agent 50 is directed under pressure.

With respect to claim 5, WO 97/36676 further discloses two catalytic converter stages 20, 22 connected in series wherein each stage has a different reducing agent storage capacity and wherein at least one of the stages forms the nitrogen oxide reduction catalytic converter 20.

Instant claims 1, 5-6 structurally read on the apparatus of WO 97/36676.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al (5,884,475) or EP 555,746 or WO 97/01387 (corresponding to Muller et al, US 6,444,177), or WO 97/36676.

The apparatus of the primary references is substantially the same as that of the instant claims, but is silent as to the specific location of the baffle plate.

However, at the time of the invention was made, it would have been obvious to one skilled in the art to select an appropriate location for the baffle plate since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art provided that it would facilitate the evaporation of urea solution thereof, absence showing any unexpected results and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

### ***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (703) 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

HT  
October 15, 2003



**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**